DOCUMENT RESUME

ED 377 705 FL 022 671

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TITLE Two-Way Bilingual Education: Students Learning through Two Languages. Educational Practice Report: 12.
INSTITUTION National Center for Research on Cultural Diversity and Second Language Learning, Santa Cruz, CA.
SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE 94
CONTRACT R117G10022
NOTE 27p.
AVAILABLE FROM Dissemination Coordinator, National Center for Research on Cultural Diversity and Second Language Learning, Center for Applied Linguistics, 1118 22nd St., N.W., Washington, DC 20037.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Bilingual Education Programs; Elementary Secondary Education; Intercultural Communication; Language of Instruction; Limited English Speaking; Minority Groups; Program Descriptions; Program Implementation; Second Language Instruction; *Second Language Learning; Spanish Speaking; *Teaching Methods
IDENTIFIERS *Two Way Bilingual Education

ABSTRACT

Since the mid-1980s two-way bilingual education programs have attracted renewed interest as an effective way to educate both language-minority and language-majority students. This report, which describes and assesses the current state of such programs in the United States, is based on data collected from 169 schools during the 1991-92, 1992-93, and 1993-94 school years. The opening section, a brief overview of the goals and rationale for the two-way approach, profiles the programs in four tables showing: programs by state; grade levels served; language of instruction; and year of establishment of programs. The remaining parts of the paper provide: an account of the results of the study; a discussion of variability in program implementation; and an exploration of some significant related questions. Among these are: Will the model that works for one school district work for another? What about attrition and late admission to the program? What about the development of programs in diverse languages: for example, those that do not share an alphabet with English? And how can the target languages be maintained and developed in the face of the dominance and power of English in U.S. society? While these concerns and others need to be addressed, it is concluded that two-way bilingual programs benefit U.S. education in three important ways: (1) by providing an effective approach to educating a growing number of nonnative-English speaking students in an environment that promotes both English language development and academic progress; (2) by expanding the nation's language resources; and (3) by enhancing cross-cultural understanding and appreciation. A list of resources from 12 programs is appended. (Contains 24 references.) (LR)

EDUCATIONAL PRACTICE REPORT 12

ED 377 705

TWO-WAY BILINGUAL EDUCATION: STUDENTS LEARNING THROUGH TWO LANGUAGES

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U.S. DEPARTMENT OF EDUCATION
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Two-Way Bilingual Education: Students Learning Through Two Languages

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1994

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ACKNOWLEDGMENTS

I am indebted to Cindy Mahrer and Chris Montone, who collected the information from two-way bilingual programs on which this report is based, and to Isolda Carranza for the information about resources found in the Appendix. All three have provided tremendous insight and diligent attention to detail as our study has progressed, and I thank them. The study itself could not exist without the cooperation of the schools and school districts with two-way bilingual programs. In particular, I am grateful to the representatives of programs who provided large amounts of information and responded to questions and requests from us. I have also benefited from the contributions of numerous colleagues on this study. Special thanks go to Kathryn Lindholm, Deborah Short, Merrill Swain, and Dick Tucker for their advice and assistance.

Two-Way Bilingual Education: Students Learning Through Two Languages

Overview

In a growing number of schools in the United States, students are learning through two languages in programs that aim to develop dual language proficiency along with academic achievement. These two-way bilingual programs integrate language minority and language majority students and provide content area instruction and language development in two languages.

A study of over 160 schools between 1991 and 1994 provides a picture of the current state of two-way bilingual education in the United States. Two-way programs typically share the goals of bilingual proficiency, academic achievement, and positive cross-cultural attitudes and behaviors, but they vary a good deal in the approaches and strategies they use to work toward those goals. A host of local factors affect such issues as student enrollment, program features and design, and instructional features.

Emerging results of studies of two-way bilingual programs point to their effectiveness in educating nonnative-English-speaking students, their promise of expanding our nation's language resources by conserving the native language skills of minority students and developing second language skills in English-speaking students, and their hope of improving relationships between majority and minority groups by enhancing cross-cultural understanding and appreciation.

Introduction

The best setting for educating linguistic minority pupils—and one of the best for educating any pupil—is a school in which two languages are used without apology and where becoming proficient in both is considered a significant intellectual and cultural achievement.

Charles L. Glenn, *Principal*, 1990

In a growing number of schools in the United States, students are learning through two languages in programs that aim to develop dual language proficiency along with academic achievement. These *two-way bilingual education*[1] programs are attracting attention as an effective way to educate both language minority and majority students.

Two-way bilingual programs integrate language minority and language majority students and provide instruction in, and through, two languages. One is the native language of the language minority students (called here the *target* language), and the second is English. These programs provide content area instruction and language development in both languages. In order to achieve the full benefits of two-way bilingual education, students from the two language backgrounds are in each class, and they are integrated for most or all of their content instruction. These programs provide an environment that promotes positive attitudes toward both languages and cultures and is supportive of full bilingual proficiency for both native and nonnative speakers of English.

The two-way bilingual approach is not a new one; in fact, some bilingual education programs operating in the 1960s shared many of the characteristics of what we know as two-way bilingual education today. Students from two language backgrounds participated, and bilingualism for all students was one of the goals. Several programs that began in the 1960s and 1970s (for example, the Coral Way Bilingual Elementary School in Miami) continue this type of instruction through the present. Since the mid 1980s, however, the two-way approach has attracted renewed interest, and many new programs have been established. This interest was likely the result of a convergence of factors, including increased attention to foreign language learning for English speakers, research on effective programs for educating language minority students, and the availability of federal and state funding for programs using this approach.

The Coral Way Bilingual Elementary School in Miami, Florida, began its Spanish/English bilingual program in 1963. The school serves the neighborhood population in pre-K through fifth grade and seeks to help all students become "bilingual, biliterate, and bicultural."

In this report, the current state of two-way bilingual education in the United States will be described. The findings come from a study in which we collected information about two-way programs from over 160 schools during the 1991-1992, 1992-1993, and 1993-1994 school years (Christian & Mahrer 1992, 1993; Christian & Montone, 1994). A goal of the study, and of

[1] There are a number of other terms in current use for programs using this approach, including *bilingual immersion, two-way immersion, developmental bilingual*, and *dual language* programs.

Washington, DC's James F. Oyster Bilingual Elementary School has a two-way program with a long history. Begun in 1971, the Oyster School program enrolls students from pre-K through 6th grade. Its unusual model places two teachers in each classroom—one English speaker and one Spanish speaker—and the language of instruction is determined by which teacher is providing the instruction.

this report, is to assist current and prospective programs with their planning by giving them a picture of what other programs are doing. Following a short review of the goals and rationale for two-way programs, the results of the study will be discussed. Two-way programs share many features but vary in significant ways as well, and these areas of variability in implementation will be a focus of this report. There are also a number of unanswered questions about how to handle certain issues; concerns that were voiced by schools during the course of the study will be raised in the next section. Finally, following some concluding remarks, an appendix will list other sources of information about two-way bilingual education, from research reports to videotapes produced by individual schools.

Goals and Rationale

Typical goals for two-way bilingual programs include language, academic, and affective dimensions:

- Students will develop high levels of proficiency in their first language and in a second language.
- Students will perform at or above grade level in academic areas in both languages.
- Students will demonstrate positive cross-cultural attitudes and behaviors and high levels of self-esteem.

It is important to note that this educational approach does not emphasize language development over academic and social development; the goal is balanced development in all three areas.

The rationale for two-way bilingual education has been discussed in other publications (such as Lindholm, 1990; Tucker, 1990). The approach applies many of the recommendations that have come from recent research. Several will be mentioned briefly here.

There is considerable evidence that learning through the native language has many advantages for language minority students (see, e.g., Cummins, 1981). It facilitates the development of both "basic" and "advanced" literacy (Krashen, 1991) in the native language and in English; it allows students to gain important content knowledge that in turn will make the English they encounter more comprehensible (Krashen, 1991); and it enhances cognitive and social development (Hakuta, 1986). Many schools treat the native language of minority students as a problem to be overcome, adopting a remedial attitude, with its attendant negative connotations. Minority students can benefit greatly, however, from "additive" bilingual environments (Lambert, 1987) fostered by two-way programs, where

students' native languages are highly valued and their language knowledge is considered a resource.

It is also important for fluent speakers of English to have an opportunity to learn another language. Research has demonstrated that these students, who speak the majority language of the wider society, benefit from an immersion experience for language learning and do not suffer academically when instruction is provided via a second language (Genesee, 1987; Harley, Allen, Cummins, & Swain, 1990). By uniting these two groups of students, two-way bilingual programs help to expand our nation's overall language competence by conserving and enhancing the language resources that minority students bring to school with them and promoting the learning of other languages by English speakers.

The two-way bilingual approach, moreover, incorporates effective language teaching methods. In two-way classrooms, the students learn language primarily through content. Many researchers have come to the conclusion that language is best developed within a content-based curriculum, rather than as the object of classroom instruction (Short, 1993; Snow, Met, & Genesee, 1989). One teacher from a two-way bilingual program commented: "We don't say that we teach Spanish—we say that we teach math in English and Spanish" (reported in Corral, 1991).

In addition, the social interactional features of two-way bilingual programs support better opportunities for language development. Both first and second language acquisition are facilitated by interaction between the "novice" (the learner of the language) and "experts" (fluent speakers of the language). By integrating students from two language groups in a classroom, two-way bilingual programs offer the language learner access to native-speaker models. This additive bilingual environment supports the ongoing development of the native language while a second language is learned.

Based on an examination of research on bilingual and immersion education, Lindholm (1990) identified the following set of factors that are essential for successful two-way bilingual education.

Two-way bilingual education combines the bilingual education model for language minority students with the foreign language immersion model for English speakers. Culver City, CA has had Spanish language immersion for English speakers for over 20 years. In 1990, a two-way program was instituted at the middle and high schools, bringing together students from the immersion program with native Spanish speakers. Students learn a content area (social studies, geography) and language arts together in Spanish.

Criteria for Success in Two-Way Bilingual Education

1. Programs should provide a minimum of four to six years of bilingual instruction to participating students.

2. The focus of instruction should be the same core academic curriculum that students in other programs experience.

3. Optimal language input (input that is comprehensible, interesting, and of sufficient quantity) as well as opportunities for output should be provided to students, including quality language arts instruction in both languages.

4. The target (non-English) language should be used for instruction a minimum of 50% of the time (to a maximum of 90% in the early grades) and English should be used at least 10% of the time.

5. The program should provide an additive bilingual environment where all students have the opportunity to learn a second language while continuing to develop their native language proficiency.

6. Classrooms should include a balance of students from the target language and English backgrounds who participate in instructional activities together.

7. Positive interactions among students should be facilitated by the use of strategies such as cooperative learning.

8. Characteristics of effective schools should be incorporated into programs, such as qualified personnel and home-school collaboration.

Adapted from Lindholm, 1990, p. 96-101; see that discussion for the full set of criteria and research references.

Two-Way Bilingual Programs in the United States

For this study, information was collected from 169 schools that reported operating a two-way bilingual program. Table 1 presents a summary of the location of these programs, showing the number of districts and schools in each state. A total of 92 school districts represent 17 states and the District of Columbia in the list. An additional 8 schools undertook a planning year in 1991-1992 or 1992-1993 but did not implement a program the following year. They are not included in the tables.

TABLE 1

Two-Way Bilingual Programs by State

State	*Number of Districts*	*Number of Schools*
Alaska	1	1
Arizona	4	8
California	28	57
Colorado	1	3
Connecticut	2	2
District of Columbia	1	1
Florida	2	6
Illinois	2	8
Massachusetts	6	12
Michigan	1	1
New Jersey	1	1
New Mexico	1	1
New York	31	50
Oregon	1	3
Pennsylvania	1	1
Texas	5	8
Virginia	3	5
Wisconsin	1	1
TOTAL	**92**	**169**

TABLE 2

Grade Levels Served in Two-Way Bilingual Programs

Grade Levels Served	*Number of Schools*
Pre-K	2
K - 6	147
K - 8	4
K - 12	2
6 - 9	12
9 - 12	2
Total	**169**

TABLE 3

Languages of Instruction in Two-Way Bilingual Programs

Languages of Instruction	*Number of Schools*
Spanish/English	155
Cantonese/English	4
Korean/English	3
Navajo/English	2
Japanese/English	2
Russian/English	1
Portuguese/English	1
French/English	1
Total	**169**

TABLE 4

Year of Establishment for Two-Way Bilingual Programs; Five-Year Intervals, 1963-1993

Year established	*Number of schools*	*% of total*
1989-1993	113	66.86
1984-1988	28	16.57
1979-1983	14	8.28
1974-1978	4	2.37
1969-1973	6	3.55
1963-1968	4	2.37
TOTAL	**169**	**100.00**

The Alvin S. Hatch Elementary School in Half Moon Bay, CA is a typical two-way program. Founded in 1991 with a K-level class, this Spanish/English program is expanding by one grade level per year until the program covers kindergarten through Grade 5. The district's long-range goal is to extend the program through Grade 12.

Some basic characteristics of these programs are shown in Tables 2 through 4. Table 2 shows their distribution by grade level; Table 3 lists the languages of instruction. Finally, a look at the age of the program is of interest. Table 4 presents the number of years that schools have operated their two-way program. The tables show that New York and California have the highest numbers of schools involved in two-way bilingual education. Nationwide, most schools with two-way bilingual programs are providing instruction in Spanish and English at the elementary school level and have operated the program for fewer than five years. These features point to several issues of concern for the future, to be discussed later, namely: the feasibility of providing instruction in target languages other than Spanish; continuation of programs beyond elementary school grades; and developing capacity among large numbers of new programs.

Variability in the Implementation of Programs

Student Population

The Los Angeles, CA area has two-way programs with target languages other than Spanish. In 1990, the Elliot Elementary School in Artesia, CA began its Portuguese/English program with a K/1 class and is adding one grade level per year. Teachers have translated "big books" into Portuguese and have made big books from original Portuguese literature. A Korean/English program operates at three elementary schools in Los Angeles Unified School District. Instruction began with a K class in 1992 at Cahuenga School, in 1993 at Denker Avenue and Wilton Place Schools, and is expanding one grade level each year. Classes feature computer use in both Korean and English.

Although two-way programs are defined by the involvement of students from two different language backgrounds, they differ in which language is paired with English and in the proportion of speakers of the two languages. As we have seen above, Spanish remains the most prevalent target language in U.S. programs, but interest in other languages is growing. The feasibility of offering a program in a particular language relates directly to the number of potential students from that background and the availability of resources (especially qualified teachers) to support instruction in the language.

The proportions of students in the two language groups vary across programs and across individual classes. While the approach works best when the numbers of students are balanced, there are many reasons why this may not always be feasible. Some districts want the program to be open to all students; a first come, first served policy does not, however, guarantee the desired balance of students. In other cases, attrition at upper grade levels may be uneven, so that one language group becomes dominant at a particular grade level.

Programs also differ in how they enroll students, both initially and in upper grades. Neighborhood schools operate differently from magnet programs, of course, but there are typically a restricted number of places to be filled each year in the two-way program, and so some selection process occurs. Even when parents can sign their children up on a first come, first served basis, programs often consider language background and proficiency in order to work toward balanced numbers of students. Some districts screen students for other characteristics (such as learning disabilities, speech or hearing problems), but many do not.

Programs differ in their policy on admitting newcomers to the program at upper grade levels as well. Some set an upper limit: for example, no new students may enter the program above third grade. Such limits derive from the level of bilingual proficiency that students will have developed by that grade and the difficulty a monolingual speaker of either language might have in catching up. Other programs make all admissions on an individual basis, considering a student's language proficiency along with other factors. In some cases, programs distinguish between target-language and English-language-background students in their policy, allowing target-language speakers to enter at upper grades, since the program may be the only source of native language instruction for minority students.

To counter the problem of attrition and falling numbers in the upper grades of a program, some schools set up additional classes at the lower grade levels. With two or more classes at the earliest grade levels, for example, there is a better chance that enough students will remain in the program at the upper grades to constitute a full class.

Program Features

Even a cursory examination of two-way bilingual programs reveals a wide range of differences in implementation. Some variations are a function of local policy, as in the definition of school boundaries. Some programs are neighborhood based and only enroll students from the local neighborhood. Others are magnet schools and have open enrollment for students from throughout the district. Some programs operate under a combination of these conditions; for example, they might give preference to neighborhood students, but fill openings in the program with applicants from other areas of the district. In nearly all cases, participation is voluntary, and parents choose to enroll their children in the program. Other variable features stemming from local policy or budget decisions include staffing (presence of aides in the classes, for example), special resources (such as target language reference books), summer sessions, and language classes for parents (target language and/or English).

Programs also differ in grade levels served. Most programs begin at the kindergarten or first grade level (a few have preschool components) and extend through the elementary span of the school (usually fifth or sixth grade). Articulation beyond elementary school has become a major concern for many districts, and few have so far instituted a full K-12 sequence.

Program Design

Although most programs share similar goals, design choices vary considerably. In some cases, the choices represent concessions to local conditions, such as demographics or community attitudes (e.g., a neighborhood school with relatively few native English speakers may choose to go forward with a two-way program without a balance of language backgrounds represented in each class). At this point, we do not have good evidence linking such differences in programs to differences in outcomes. We will return to this issue later.

Major differences can be grouped into two dimensions of program design: allocation of languages of instruction and extent of student integration.

Allocation of Languages. The distribution of the two languages of instruction varies from program to program. The languages are typically kept separate in one of three ways (or a combination of them):

- by content area—for example, social studies and math are taught in Spanish, while science, art, and music are taught in English;
- by time—for example, instruction is in each language on alternate days;
- by person—for example, one teacher uses only Cantonese and another uses only English.

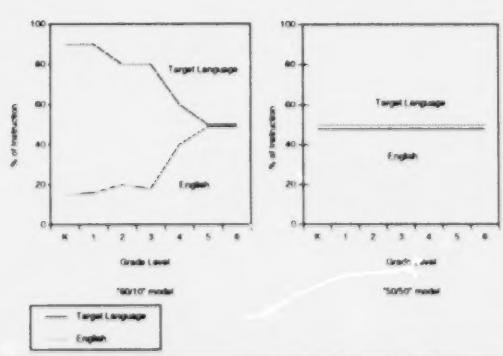
The distribution of languages interacts closely with the amount of target (non-English) language used for instruction to define in a sense the structure of the program. There appear to be two major patterns followed in the elementary schools (where the bulk of programs are). In one, the "90/10" model, the target language is used in the early years for nearly all of the instruction (usually about 90%), and English is gradually increased as a medium of instruction until in the upper elementary grades the proportion of English instruction is roughly 50%. In these programs, the majority students have an immersion experience in the second language, while the minority students receive native language instruction with a gradual introduction of English and English-medium instruction.

According to the second pattern, the "50/50" model, the percentage of instruction in each language is roughly equal from the beginning. In other words, both English and the target language are used abou: 50% of the time. Many programs have English as a second language (ESL) and Spanish as a second language (SSL) or other explicit target language instruction as well. Figure 1 depicts the language allocation sequence of the two basic models.

At the Washington Elementary School in San Jose, CA, students in kindergarten and first grade spend 90% of their school day receiving instruction via the Spanish language. All students receive their initial reading instruction in Spanish. In second and third grade, Spanish is the language of instruction 80% of the time. During the English portion of the day (10% at K-1 and 20% at 2-3), language arts is taught, with formal instruction in English reading introduced in third grade. Fourth and fifth graders approach an even split between the two languages, with 50% to 60% of their instruction via Spanish and the remainder in English.

In Cambridge, MA, the Amigos Program operates at two sites, the Maynard School for Grades K-3 and the Kennedy School for Grades 4-6. It began in 1986 with kindergarten students and added one grade level per year, so that a full K-6 program has been offered since 1992. The Amigos program uses the "50/50" model. At K-1, students have instruction in Spanish and English on alternate days. From second grade on, the language of instruction is alternated by weeks, with students receiving instruction for one week in Spanish and the next week in English.

FIGURE 1
ALLOCATION OF LANGUAGES OF INSTRUCTION IN TWO-WAY PROGRAMS: TWO MODELS



These two patterns are by far the most prevalent ways in which two-way bilingual programs frame the instructional program by language, at least at the elementary level. There are a variety of program designs above the elementary school, but programs at the higher grade levels are relatively few overall (see Table 2). At this point, most secondary programs appear to be constrained by available resources and scheduling issues. They generally offer an idiosyncratic set of content and language arts courses in the target language for students coming from elementary school two-way programs, depending on the availability of teachers and numbers of students involved. The most frequently named content areas for target language instruction were science, math, and social studies.

Student Integration. Differences in local policies and beliefs show up in varying degrees of integration of students from the two language backgrounds. In many programs, students from both groups are integrated virtually all the time; that is, they are never separated on the basis of language background (although individuals or small groups may go out for special services, as in any school, such as for lessons on musical instruments or special tutoring). Other programs devote up to an hour a day to language instruction, dividing the students by native language so they may receive tailored second language instruction (English as a second language, Spanish as a second language, and so on). During the rest of the day, the students are fully integrated, however, for all other content instruction.

In some programs, students are placed in separate classes by language background and then integrated with a partner class for some time each day or week. In such a Spanish/English program, for example, English-speaking first graders are in one class and Spanish-language-background students are in another. They receive parallel instruction in content areas, in one or both languages, and learn the other language as a second language, apart from one another. For some portion of each day or week, the two classes come together for instruction in Spanish (a math lesson or Hispanic culture activities, for instance). With less opportunity for cross-group interaction, however, the students are not likely to realize the full benefits of a two-way approach.

Instructional Features

Teachers in two-way bilingual programs employ a wide variety of instructional approaches and strategies and in that way resemble any cross-section of educators. However, because of the distinctive character of two-way classes, certain instructional approaches are better suited to them than others.

When students from two language backgrounds are together for content instruction, teachers must always consider that some students are learning that content through a language they do not speak natively. As a result, strategies that make instruction more comprehensible to nonnative

speakers (sometimes referred to as sheltered instruction) play an important role. Experiential, or hands-on, learning works especially well, because students can get meaning from experience as well as from language. Some programs have found that thematic units help students make connections across content areas and languages. In general, multiple cues give students additional chances to master concepts they are learning or to fill out supporting details. A graphic representation, such as a semantic web, following small group discussion, direct experience on a field trip, and/or reading of text material, helps students pick up relationships that were missed in the other formats and reinforces new vocabulary and concepts. Whole language approaches are also effective, because they allow students to build on their strengths in both languages.

Learning environments that emphasize peer interaction provide a supportive foundation for two-way programs for several reasons. One of the biggest advantages of two-way programs for language development is the presence of native-speaker models for both languages. Students can only tap the language resources of fellow students if they have sustained opportunities for interaction. The assistance of peers who are native speakers of the language of instruction can also be key to understanding content in a second language. Moreover, the chance to promote positive cross-cultural attitudes and appreciation will be diminished if students from different backgrounds seldom interact. Cooperative learning, peer coaching, and other formats that promote interactive, student-centered classrooms (Holt, 1993), then, are more likely to yield the full benefits of two-way bilingual education than those that are teacher-centered.

Emerging Results

Although research on two-way programs is fairly scant, there are studies that report on student outcomes, including numerous evaluations of individual programs. Emerging results from program evaluations around the country point clearly to their effectiveness in promoting academic achievement for minority and majority students, along with high levels of bilingual proficiency for both groups.

In a study of school districts in California using two-way immersion, Lindholm and Gavlek (1994) found that, in four schools where the program operates through at least fifth or sixth grade, 75% to 92% of the nonnative-English-speaking fifth and sixth graders were rated as fluent in English (on the Student Oral Language Observation Matrix, or SOLOM, a teacher rating instrument). On standardized math achievement tests, that group ranked in the 25th to 72nd percentile in English and in the 25th to 90th percentile in Spanish. In the same schools, 67% to 100% of the English-background students were rated as fluent in Spanish (on the SOLOM) by fifth grade, with math achievement results of 54th to 91st percentile in English and 37th to

96th percentile in Spanish. The authors conclude that their results demonstrate "the success of the bilingual immersion *model* in achieving the desired outcomes of bilingual proficiency, achievement at or above grade level, and positive psychosocial competence," but "there were major variations . . . within . . . and across school sites" (Lindholm & Gavlek, 1994, p. 98).

A broader review of evaluation studies yielded similar results. Mahrer and Christian (1993) compiled student outcome and other data from year-end evaluation reports that they collected from programs around the country in another phase of the study reported here. While many programs showed strong language proficiency and academic achievement outcomes for both native and nonnative English speakers, there was wide variation.

A prime concern for educators and parents alike relates to the long-term effects of two-way programs. Ongoing research being conducted by Collier (1994) on nonnative-English-speaking students in five urban districts shows that the greatest educational gains are achieved by students who were in two-way programs (compared to other bilingual programs and ESL). While the differences are not so great in the early years, by secondary school, the effects are clear.

There is also some evidence emerging about the social and psychological outcomes of two-way bilingual programs. Cazabon, Lambert, and Hall (1993) examined social networks in the classroom and perceived competence ratings among students in one such program. Using sociometric questionnaires, they found that, by third grade, students "develop friendships in the classroom quite independent of race or ethnicity." On perceived competence, a measure of self-esteem, both Spanish-background and English-background students show high levels of academic and personal satisfaction. In a subsequent study of the same program, Lambert and Cazabon (1994) found a "clear preference for having friends from both [Anglo and Hispanic] groups" and for mixed ethnic/racial classrooms as opposed to ethnically segregated schooling. These results indicate that social and psychological goals related to attitudes and self-esteem may be fostered by the two-way bilingual approach.

These various reports and studies demonstrate that two-way bilingual education can be an effective model for teaching academic subjects, for teaching other languages to English-speaking students, for teaching English to students from other language backgrounds, and for fostering positive cross-cultural attitudes and self-esteem among students. There are, however, many questions that remain concerning matters of implementation and factors responsible for variations in student outcomes.

At the Key Elementary School in Arlington, VA, student oral skills in Spanish have been shown to improve year to year, as measured by the Student Oral Proficiency Rating (SOPR) scale and the Language Assessment Scales (LAS) test (Barfield & Rhodes, 1993). English skills develop at an even faster rate. At the same time, students demonstrate progress academically. The fourth grade students (academic year 1992-1993) scored at the fifth- or sixth-grade level in all subtests (including vocabulary, reading comprehension, social studies, science, and math) of the Iowa Test of Basic Skills (ITBS). The class mean was above that of the non-two-way classes at Key as well as above the state and national means (Barfield & Rhodes, 1993).

Issues in Implementation

As educators begin to plan a new two-way program or look for ways to extend or improve an existing one, many questions arise: Are the

necessary ingredients here for a successful program? Will the model that works in that school district work in ours? What would happen if we . . . ? What do the students need to help them maintain their Spanish proficiency? And so on. Although the basic goals and features of two-way bilingual education are fairly well defined, many issues of implementation are not.

As discussed in some detail above, there are many variations in program design. At this point, we can only speculate on the consequences of choosing one or another alternative. There may be different outcomes for students whose programs use different amounts of the target language for instruction (contrast those that begin with 90% or more target language with those that start at 50%). We might speculate that a higher level of target language use will lead to higher proficiency levels, but other factors of the local context may intervene. For example, will the difference in proficiency, if any, persist once the student finishes the program? The effects of different ways of distributing the languages of instruction are also unknown. Is there a reason to prefer a time-based (e.g., alternate days) over a content area distribution? Sociocultural factors in the school and community (such as attitudes toward the target language and prior inter-group relations) may also bear on aspects of program design; certainly, demographic features are relevant.

Another concern of program implementers is attrition and the related question of late admission to the program. Many schools experience high transiency rates. Can a two-way program be successful in such a context? Can newcomers be incorporated on an ongoing basis, or is there a point beyond which it may be too difficult for the student? Many programs have guidelines that set a limit at second or third grade for newcomers to the program, with individual cases considered when a student arrives with dual language proficiency. The issue comes up again at the secondary level, when target language classes organized for students from two-way programs might provide native language instruction for newcomer language minority students. What are the advantages and disadvantages of combining the two populations of students?

The question of attrition leads directly to myriad issues of articulation from elementary to secondary schools. As noted earlier, many two-way programs are relatively young. Following the common practice of adding a grade level each year, these programs will soon face the question of what happens to their students after elementary school. If they move to an all-English program, their target language development may be arrested and would likely decline.

Many educators recommend continuing substantial amounts of content instruction in the target language, along with appropriate levels of language arts, in order for the students to maintain and continue to develop target language proficiency. Such a plan, however, runs into serious practical roadblocks in secondary schools: availability of qualified teachers, scheduling, graduation requirements, and so on. Also, low numbers of

students interested in these courses may limit the flexibility of schools to offer them. (Naturally, if multiple elementary programs fed into secondary schools, the problem of low numbers could be reduced.) Serious attention must be focused soon on identifying practical strategies for providing effective continuation of two-way programs at the secondary level.

A third area of interest is the development of programs in diverse languages. At the moment, most programs operate in Spanish and English. This fact stems obviously from the demographic features of contemporary schools. However, there are certainly large enough numbers of speakers of other languages in our schools to make the implementation of a two-way bilingual program at least feasible. Significant numbers of speakers of Vietnamese, Chinese, Arabic, Korean, and many other languages enter our schools each year. One constraint on program implementation in other languages comes from community attitudes. Community members (especially the parents of potential students) need to see a value in learning (or maintaining) the language in question so that they will support the program by enrolling their children or committing resources to it. Another constraint is the availability of resources, including qualified teachers, texts, and sources of support. Currently, two-way programs operate in Cantonese, Korean, Japanese, Navajo, Russian, Portuguese, and French, and we can look to them for guidance for the future.

There are some specific questions raised about programs in languages that do not share the alphabet with English (such as Chinese, Russian, and Arabic), particularly related to the development of literacy skills and the transfer of skills and knowledge between the two languages. Further research should help us address such questions.

One final issue should be mentioned here. There is growing concern for target language maintenance and development—its survival—in the face of the dominance and power of English in our society, particularly as students move into adolescence. This is a concern for both language minority and majority students. McCollum (1993), for example, found that in a middle school two-way bilingual program, Spanish-background students used primarily English at school. She argues that, among other factors, the students perceived English, not Spanish, as the "language of power" and reacted accordingly. Others have found that societal pressures promote assimilation to English for minority students, with a decline of the native language, even when they participate in specially designed programs (Landry & Allard, 1991).

The preservation and development of skills in a language other than English in the school setting require focused attention. The degree of difficulty depends on a complex array of sociocultural and individual factors. Some programs have increased the level of target language instruction to strengthen it (e.g., moving from 50% to 90% target language use). Others have noted the importance of ensuring that a class has at least 50% native

speakers of the target language. Some advocate tipping the balance more in that direction, to 60%. Some educators stress the need for teachers to reinforce the learning and use of the target language more forcefully and effectively, looking for a response in individual classrooms rather than in program design. We need to build our knowledge base about which approaches and strategies are most effective in promoting target language development and maintenance.

Conclusions

Two-way bilingual programs address several serious issues facing education in the United States today. They provide an effective approach to educating the growing number of nonnative-English-speaking students in our schools in an additive bilingual environment that promotes native and English language development and academic progress. They promise to expand our nation's language resources by conserving the language skills minority students bring with them and by adding another language to the repertoire of English-speaking students. Finally, they offer the hope of improving relationships between majority and minority groups by enhancing cross-cultural understanding and appreciation.

By and large, two-way programs share the goals of dual language proficiency and academic achievement for minority and majority students learning together. They vary a good deal, however, in the approaches and strategies they use to work toward those goals. Much of the variability can be seen as an asset, demonstrating flexibility needed to meet local conditions. Some issues, however, reflect concerns that remain to be addressed through accumulated experience and additional research.

As our nation strives to provide education to "high standards for all students," and as we seek to include language competence in one of our National Education Goals, two-way bilingual programs offer great promise. Not only do they provide a sound basis for academic excellence for all students, they also help us meet the goal of foreign language learning as one of the core subjects. With students learning through two languages in two-way bilingual education, we can profit from the growing diversity in our schools to address the need for better understanding and communication across cultures.

Appendix

Selected List of Materials Available from Two-Way Bilingual Programs

Cambridge Public Schools
159 Thorndike Street
Cambridge, MA 02141
617-349-6588
*Video: *AMIGOS Two-Way Language Immersion Program*
*Brochure, *AMIGOS Chronicle, AMIGOS Newsletter.*

Community School District 3
300 West 96th Street
New York, NY 10025
212-678-2824
*Video: *The Dual Language Program at PS *84*
*Brochure

Fallbrook Union Elementary School District
321 North Iowa Street
PO Box 698
Fallbrook, CA 92028-0698
*Video: *Increasing Opportunity Through a Second Language* (1983)
*Video: *Proyecto Alegrá* (1990)

Fort Lupton School District RE-8
411 South McKinley
Fort Lupton, CO 80621
(303) 857-2714
*Video: *Fort Lupton Bilingual Multicultural Program*
**The Bilingual-Bicultural Handbook*

Long Beach Unified School District
Los Angeles County Office of Education
9300 Imperial Highway, Room 299
Downey, CA 90242
310-421-3754
*Video: *Patrick Henry Immersion Program*
*Brochures in English and Spanish

Herman Badillo Bilingual Academy #76
300 South Elmwood Avenue
Buffalo, NY 14201
716-851-3848
*Teacher and parent handbook

Inter-American Magnet School
919 West Barry Avenue
Chicago, IL 534-5490
**ual Language Immersion Handbook*
*Handbook for parents
*Manual for teachers

Key Elementary School
2300 Key Blvd.
Arlington, VA 22201
703-358-4210
*Curriculum guides
*Information for parents (in Spanish)
*_Two-Way Spanish Partial Immersion Program Teacher Handbook_

La Escuela Fratney
3255 North Fratney Street
Milwaukee, WI 53212
414-264-4840
*Annual book in Spanish and English
*Parent handbook (in Spanish and English)

San Francisco Unified School District
Buena Vista Alternative Elementary School
2641 25th Street
San Francisco, CA 94110
415-695-5875
*Video on Spanish immersion program: _Challenges and Opportunities: Immersion Education in San Francisco (1990)_
*Manual: _Challenges and Opportunities: Immersion Education in San Francisco_ (1990)
*Video on two-way bilingual program

Santa Monica-Malibu Unified School District
Edison Elementary School
2425 Kansas Avenue
Santa Monica, CA 90404
(310) 828-0335
*Video: _Edison School_
*Video: _Edison Kindergarten_

Windsor Union School District
Windsor Elementary School
7650 Bell Road
Windsor, CA 95492
707-838-6628
*Video: _How to Plan and Implement a Two-Way Spanish Immersion Program_
*Manual: _How to Plan and Implement a Two-Way Spanish Immersion Program_ (available from Foreign Languages and International Studies Unit, California State Department of Education, PO Box 944272, Sacramento, CA 94244-2720)

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